

REMARKS

This application has been carefully reviewed in light of the Office Action dated August 10, 2005. Claims 1, 2 and 4 to 9 are in the application, of which Claim 1 remains the sole independent claim. Reconsideration and further examination are respectfully requested.

Turning first to a procedural matter, it is respectfully requested for the Examiner to acknowledge receipt of Applicants' certified copy of their priority document. The certified copy was filed in the Patent Office on February 13, 2004. Acknowledgment thereof is respectfully requested.

Turning to the merits of the Office Action, a new title has been selected.

Claims 1, 2, 4 and 8 were rejected under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2001/0026306 (Yamazaki) in view of U.S. Patent 5,742,311 (Koitabashi). In addition, Claims 3, 5, 6, 7 and 9 were rejected § 103(a) over Yamazaki and Koitabashi and further in view of U.S. Patent Application Publication No. 2003/0085968 (Shimizu)¹. In response, Claim 3 has been cancelled, and the substance thereof incorporated into independent Claim 1. Accordingly, this should be viewed as a traversal of the rejection of Claim 3, as explained more fully below.

¹Page 4 of the Office Action indicated that the Shimizu publication constitutes prior art only under § 102(e), and invited applications to overcome the rejection by a variety of procedures. On the current record, however, it is believed that the Shimizu publication also qualifies as prior art under § 102(a). Accordingly, the rejection over Shimizu is being treated on its technological merits.

The invention concerns a liquid container for storing a liquid that tends to form a plurality of concentration layers when the container is maintained in a static state. According to the invention, the liquid container includes a hollow tubular member whose one end is connected to a supply port, together with an air introducing port provided at the bottom of the hollow tubular member to introduce air into the tubular member.

By virtue of the foregoing arrangement, as air is introduced into the hollow tubular member through the air introducing port, it rises as a bubble in the tubular member so as to agitate the liquid inside the tubular member. This agitation tends to mix the liquid in the liquid container, thereby de-stratifying the concentration layers. For example, as explained beginning at page 24 on line 28 of the specification:

“As described above, with this invention, as the air introduced into the tubular member through an air introducing port rises as a bubble in the tubular member, a convection is generated in the liquid in the tubular member to disturb it, so that the concentration variations in the liquid inside the tubular member are alleviated, making it possible to supply a liquid of a predetermined concentration from a supply port.”

Thus, as set forth in independent Claim 1 as amended, a liquid container storing a liquid that forms a plurality of concentration layers in a static state and having a supply port for supplying the liquid to another device also comprises a hollow tubular member whose one end installed in the liquid container is connected to the supply port. At least one liquid supply hole is formed in the tubular member, and an air introducing port is provided at the bottom of the tubular member to introduce air into the tubular member. The liquid in the liquid container is introduced into the tubular member through the liquid supply hole and the liquid thus introduced is supplied from the supply port to another

device. Air introduced into the tubular member through the air introducing port rises as a bubble in the tubular member to agitate the liquid inside the tubular member.

The applied art to Yamazaki, Koitabashi and Shimizu, even if applied in the combination proposed in the Office Action, is not seen to disclose or to suggest such an arrangement. In particular, the applied art is not seen to disclose or to suggest a hollow tubular member whose one end is connected to a supply port, together with an air introducing port provided at a bottom of the tubular member, wherein air introduced into the tubular member through the air introducing port rises as a bubble in the tubular member to agitate the liquid inside the tubular member.

In entering the rejection, the Office Action took the position that Yamazaki's Figure 15 showed a hollow tubular member in the form of "head needle 10". Actually, Yamazaki designates his head needle with reference numeral 8, whereas ink passing in the head needle is designated as 10. Regardless of this distinction, however, it is clear that Yamazaki's head needle cannot correspond to the claimed tubular member, since Yamazaki very clearly designates its function as supply of ink therethrough. As a consequence, it cannot correspond to the claimed tubular member since there is not an air introducing port provided at its bottom.

The Office Action conceded that Yamazaki does not teach an air introducing port, and relied on Koitabashi as allegedly showing this feature. Applicants respectfully submit that such reliance is misplaced. Referring to Koitabashi's Figures 2 and 3, upon which the Office Action relies, they show an ink container 1 having respective chambers 6 and 4, of which chamber 4 contains a negative pressure-producing material 3

and chamber 6 contains ink 9. A gap (or clearance) 8 is provided between the bottom of ink container 1 and a downwardly extending partition 5 so as to allow air bubbles to migrate from chamber 4 to chamber 6 as ink is supplied out of the ink container.

Nothing in Koitabashi's Figures 2 and 3 show an air introducing port positioned at the bottom of a hollow tubular member. Accordingly, it is not understood how the disclosure of Koitabashi can be relied on to show the positioning of an air introducing port at the bottom of Yamazaki's head needle 8.

Moreover, it would not be rational to position an air introducing port at the bottom of Yamazaki's head needle 8. Yamazaki very clearly describes the function of its head needle 8 as one for supplying ink out of the ink container. Air, on the other hand, is apparently introduced through an unnumbered vent shown at the top of the ink cartridge IC of Yamazaki's Figure 15.

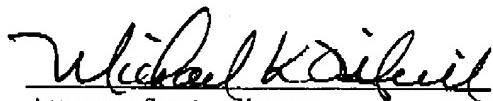
In entering the rejection of Claim 3, the Office Action took the position that Shimizu shows an air introducing port (needle 529 in Figure 4) provided at the bottom of a liquid container through which air will form a bubble that will rise in cylindrical portion 107 and thereby agitate liquid inside cylindrical portion 107. Again, Applicants are constrained to disagree, respectfully, with these conclusions. Shimizu's cylindrical portion 107 cannot correspond to the claimed tubular member, since it is not positioned with one end connected to the liquid supply port, and since it does not include a liquid supply hole through which liquid in the liquid container is introduced for supply out from the supply port to another device. Moreover, no one of ordinary skill in the art would have been motivated to modify the Yamazaki structure with the arrangement shown in Shimizu for

the reason that in Yamazaki, head needle 8 is provided for supply of liquid and not for introduction of air.

It is therefore respectfully submitted that the applied art, in any permissible combination, does not disclose or suggest the claimed arrangement. Allowance is therefore respectfully requested.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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